Trade and Climate Change: International Perspective

Callaway, John M.

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Mac Callaway, Ph.D
(mac.callaway@risoe.dk)
UNEP-RISØ Center
Technical University of Denmark

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Relationship between Trade and Climate Change

- Effects of climate change on international trade
- Effects of trade expansion on GHG emissions growth
- Effects of trade expansion on adaptation to climate change
- Effects of GHG mitigation on trade (Part 2)

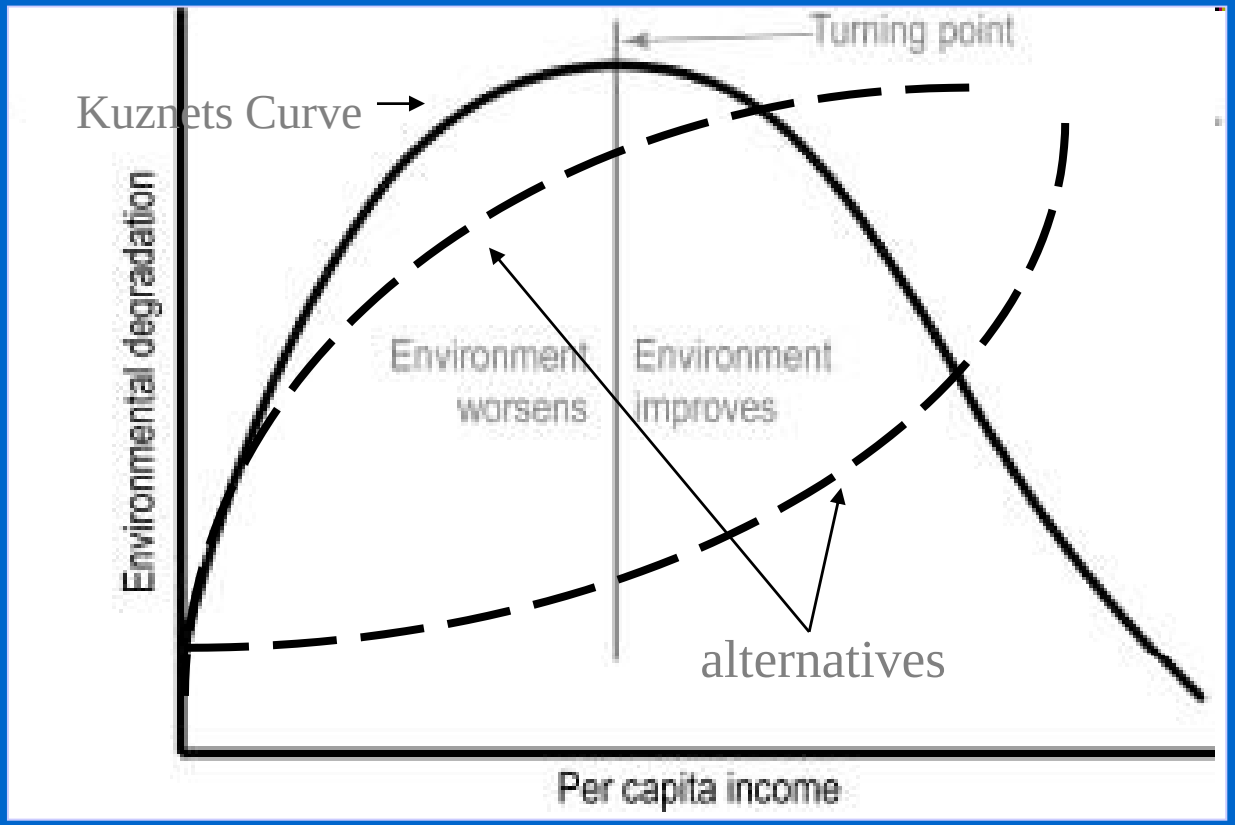
Effects of Climate Change on International Trade

- CC influences the relative profitability of different industries in different countries
  - Changes in location and mix of production activities
  - Resulting in changes trade prices and flows
  - Strongest in climate sensitive industries
- Direct effects on supply, transport and distribution infrastructure
  - Increased vulnerability to climate
  - Increased investment = higher transport costs

Effects of Trade Expansion on GHG Emissions

- Trade allows countries to specialize in industries in which they have a comparative cost advantage, leading to (possibly):
  - Increases in the amounts of GHG emissions (for a while?)
  - Changes in the geographic and industry composition of emissions
  - More investment in and adoption of new technologies to mitigate and adapt to climate change
  - Changes in the relationship between GDP/capita and GHG emissions and climate change damages (How?)

Environmental Kuznets Curve or Worse ?



Effects of Trade Expansion on Adaptation

- Climate change impacts are not distributed evenly over the Globe
- Economies with highly vulnerable basic industry sectors (household agriculture) can not easily replace lost production and consumption with imports
- Expanding international trade allows more of these losses to be offset by imports from less vulnerable countries
- Many of these economies lack mature markets and product distribution systems

Effects of GHG Mitigation on Trade – Lead in to Part 2

- Unequal emissions targets increase the energy costs of producing many goods and prices of these goods:
  - Can hurt the competitiveness of some domestic industries in countries with targets and help those without targets
  - Can create incentives for energy intensive industries to move to countries without targets and ship produced goods to countries with targets (GHG leakages)
- CDM Intent
  - Reduce emissions reductions cost in developed countries
  - Transfer mitigation technology to developing countries

Policy Implications: Climate, Trade and Development

- Leakages and competitiveness issues
- Mitigation and technology transfer issues
- Forestry-land use examples
- Re-aligning mitigation burdens
- Better integration of climate, development, trade polices

Leakages and Competitiveness Issues

- "Border adjustments" (BAs) may be required to address leakages in the form of imported, energy intensive goods
  - BAs are allowed by WTO, subject to rules
  - But the real purpose may be protectionist, to keep a competitive advantage
  - Leakages are hard to estimate, target and eliminate
  - Leakages may be small
  - Re-aligning emissions reductions burdens will have an impact

Tech Transfer and Investment

- CDM is not creating foreign investment in, or transfer of, climate-friendly technologies to developing countries
- ODA investment in the energy sector has declined
- “Barriers” to this investment in developing countries:
  - High costs and produced energy prices
  - Low private returns
  - Low emissions and energy demand (smallest countries)
  - Project and country risk
- Subsidies and protection abound on all sides

Deforestation Policy Issues

- Clearing forests in developing countries creates
  - Local environmental harm and economic losses
  - Global Increases in atmospheric GHG stocks
  - Lowers world log prices, increases consumption
  - Reduces incentives to establish plantations in developed countries
  - Local income and jobs
  - Local Export income/Foreign Exchange from log trade
- Trade, climate, development and “efficient market”, policies will all have mixed effects (Example)

Trade Policy and Deforestation

- All countries impose *and effectively implement* BAs on log and product imports from natural forests to protect local environment and avoid deforestation. What happens?
  - In Developing countries
    - Cutting and exports decrease
    - Revenue and Tax collections fall
    - Local livelihoods are depressed
    - Slash and burn for agricultural land may increase due to drop in land values
  - In Developed countries
    - World hardwood log prices increase
    - Domestic hard wood producers in developed countries harvest more, now
    - And establish more area in plantations for the future (100 years from now)
    - Some agricultural land may be converted to hardwood plantations
  - Net effects on development and climate?

Trade Policy and Deforestation

- A REDD policy for developed countries to pay for the avoided damage to ecosystems of not harvesting natural forests (for carbon credits) is *Effectively implemented*. What happens?
  - In Developing countries
    - Cutting *and slash and burn* decreases, so do log exports
    - Revenue and Tax collections from cutting fall
    - *But REDD generates income (for whom?)*
    - *Agriculture land prices increase and production, land use, ownership change*
  - In Developed countries
    - World hardwood log prices increase
    - Domestic hard wood producers in developed countries harvest more, now
    - And establish more area in plantations for the future (100 years from now)
    - Some agricultural land may be converted to hardwood plantations
  - Net effects on development and climate?

Shifting GHG Reduction Burdens

- Requiring large developing countries to reduce emissions
  - Reduces global emissions
  - Reduces leakages
  - Eases competitiveness concerns, but
  - Who pays the “additional” costs?
- Favorable trade and ODA policies for small countries + no emissions targets
  - Reduce climate damages through more efficient markets
  - More efficient, less polluting energy sectors
  - Minor carbon leakages
  - Increased economic development/reduced poverty, but
  - Who pays for technology?

Policy Mix

- Climate change policy can reduce emissions and cause/solve leakages and competiveness issues
- Trade policies can ease leakage and competiveness issues and reduce vulnerability
- Development policy can increase investment in new technology and help expand markets, esp. in small countries
- Climate policy makers should not be surprised when global and domestic markets react to “shocks” and policies in predictable ways…….no one predicted.